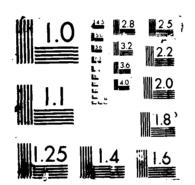
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INDEPENDENT REVIEW/REASSESSMENT

OF

ANOMALOUS DATA



VOLUME II

Approved for public relocation Distribution Unlimited

Prepared for

U.S. ARMY CONCEPTS ANALYSIS AGENCY Contract MDA903-86-C-0396

Prepared by

LFW MANAGEMENT ASSOCIATES, INC. P.O. Box 25167 Alexandria, Virginia 22313-5167

June 22, 1987

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INTRODUCTION AND BIBLIOGRAPHY: SALERNO

As per contract, the LFW Team reviewed/reassessed the following battles:

Amphitheater, 9-11 September 1943 Port of Salerno, 9-11 September 1943 Sele-Calore, 11 September 1943 Battipaglia I, 12-15 September 1943 Vietri I, 12-15 September 1943 Battipaglia II, 17-18 September 1943 Eboli, 17-18 September 1943

For statistics on these battles, the LFW Team relied primarily on official U.S. Army records [in particular Fifth Army Periodic Reports], microfilms of official German records, operations reports of the three British divisions, and a secondary source that is strong in statistical information, Graham and Bidwell, Tug of War. For U.S. and British units, the tracking process began with loading tables for the invasion that showed the strength of the division and attached units. The strength figure for the next battle reflects the initial strength minus casualties incurred in the prior battle plus any personnel additions, and in the case of the British 56th Infantry Division, the same process for a third battle.

The primary source for "bloody" casualties were the Fifth Army Periodic Reports and for the "non-bloody" casualties, Lada or Mellor, as explained in the general introduction and on the appropriate charts.

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Official Records

Fifth Army: After-Action Report, Periodic Reports, Operations Orders, G-1 and G-3 Journals; and Headquarters, Fifth Army, Historical Section, Fifth Army History [9 vols, n.p., n.d.].

45th Infantry Division: After-Action Report, Artillery After-Action Report, Division Artillery Journal, Artillery Daily Situation Reports, Division Daily Situation Reports, G-1 and G-3 Journals and files; After-Action Reports,

Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 157th Infantry, 179th Infantry, and 180th Infantry.

British Records

46th Infantry Division, Operations Report, Public Records Office, London.

56th Infantry Division, Operations Report, Public Records Office, London.

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7th Armoured Division, Operations Report, Public Records Office, London.

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Manuscripts: No. R-76, "Italian Theater, Order of Battle and List of Commanders, 22 Aug 1943-31 Mar 1944," by Ralph S. Mavrogordata, Nov 1955; No. R-88, "The Battle of Salerno," by Ralph S. Mavrogordata, 1957; and MS without number, "The German Situation [in the Italian Theater of Operations]," by Britt Bailey, 1951.

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Of limited usefulness:

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Starr, LTC Chester G., Salerno to the Alps [Washington: Infantry Journal Press, 1948].

Of peripheral usefulness:

The Fighting Forty-Fifth: The Combat Report of an Infantry Division [Baton Rouge, LA: Army and Navy Publishing Co., 1946].

LFW MANAGEMENT ASSOCIATES, INC. REVIEW

of

CAA TASK 2 REQUIREMENTS

LPW'S INDEPENDENT REVIEW/REASSESSMENT OF SEVEN ANOMALOUS BATTLES

FROM THE SALERNO CAMPAIGN



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Width of

| Front (Km) | 13.0 |
|---------------|---|
| Days | 3 |
| Commanders | MG Graham MG Sickenius |
| Forces | Br 56th Inf Div MG Graham Ger 16th Pz Div E MG Sickenlus |
| Campalgn | Salerno |
| Dates | 9 - 11 Sep 43 Salerno |
| A/0 | 6 V 0 |

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| _ |
|--|
| 9 - 11 Sep 43 Salerno Br 56th Int Div + MG Graham KG Stempet MG Sicken |

The elements of the 16th Panzer Division fought as Kampfgruppe (task Force) Stempel.



BRITISH STRENGTH: AMPHITHEATER

LOW

| 20,354 | |
|---|------|
| 56th Infantry Division estimated strength | |
| strength | High |
| estimated | |
| Division | |
| Infantry | |
| 56 th | |

22,496 56th Infantry Division estimated strength (+)

Nominal

| 21,425* | **0 | ***0 | ****0 | 21,425 |
|-------------------|----------------------------|-------------------|---------------------------------------|--------|
| LFW Team estimate | Replacements during battle | RTD (as of 2 May) | Attachments/detachments during battle | Total |

RTD as of 2 May therefore would be insignificant; Mellor, Casualties 55 percent of casualties eventually returned to duty; any personnel replacement system for individuals; when a battalion-size unit was War II. ****Fifth Army Operations Orders, Periodic Reports and G-3 no longer combat effective, it was replaced by another battalion BASIC SOURCES: *56th Inf Div Troop Loading Table in Operations ***Average loss of duty time for 35 percent of the approximate and Medical Statistics, and Lada, Medical Statistics in World Report, 56th Inf Div; **The British Army did not operate a from the same regiment; Graham and Bidwell, Tug of War. Journal



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BRITISH CASUALTIES: AMPHITHEATER

| "Bloody" | |
|---|-------|
| | |
| Estimated casualties | 687 |
| High Estimated casualties | 839 |
| Nominal Estimated casualties | 763* |
| "Non-Bloody" Low Estimated casualties | 151 |
| High Estimated casualties | 185 |
| Nominal Estimated casualties | 168** |
| BASIC SOURCES: *Fifth Army Periodic Reports; **Mellor, Casualties and Medical Statistics. | |



The second of the second of the second second second of the second secon

GERMAN STRENGTH: AMPHITHEATER

Low

| organizational strength with normal attachments $\mathbf{H}_{I^{\prime}}\mathbf{h}$ |
|---|
| Estimate 1 |

5,232

Estimate [high minus 368 or 6.5%]

Nominal

5,232

Total

estimated strength 2,172 plus 3d Assault Gun Battallon [minus one company]:

[minus one company] at estimated strength of 600 plus two self-propelled AAA batteries at estimated strength of 280 plus one FA battery at estimated strength of 183 plus an Engineer detachment at estimated strength of 100 plus GS FA at estimated strength of 100 plus GS FA

BASIC SOURCE: Tenth Army War Diary.



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GERMAN CASUALTIES: AMPHITHEATER

"Bloody"

*******[7 213** 937* 192 45 37 Estimate based on pro-rated casualties for entire Salerno LFW Team estimate from experience of British forces "Non-Bloody" Nominal Nomfnal High High Estimated casualties Ton Estimated casualties LFW Team estimate Estimated casualties campaign

BASIC SOURCES: *Graham and Bidwell, Tug of War, total figure prorated on a daily basis and then multiplied by the three days of this battle; **Tenth Army War Diary; ***British September 1943 daily NBC rate per thousand troops was 2.6123333. This figure multiplied by 5.232 thousands nominal German start of battle strength and three battle days provides 41 NBC. Mellor, Casualties and Medical Statistics.



AMPIII THEATER

HERO

| Battle | Casualties | \$/0 Armor \$/0 Arty \$/0 A/C \$/0 | 3.01 0 1 7 1 7 | 10.8 7 1 7 1 7 |
|----------|------------|--|----------------|----------------|
| - | AIr | Sortles Pers | 131 11,15 | 115 10 |
| | Arty | Pcs | 138 | 56 |
| Strength | Pers Armor | Stall T ILT. MBT | 917 0 0 0 0 | 250 128 0 8 |
| | _ | A/D (To | A 12, | 4, |

151

| 88++18 | Casualties | Pers \$/D Armor \$/D Arty \$/D A/C \$/D | 763 [1.2] 0 5 [1.1] 7 | 213 11.4 5 4.6 10 8.3 7 |
|--------|--------------|---|-----------------------|-------------------------|
| | ۸ <u>۱</u> ۳ | Sortles | ł | 1 |
| | Arty | Pcs | 146 | 40 |
| ngth | Armor |) T L+. MBT | 62 0 62 | 1 36 36 0 |
| Stre | Pers | A/D (Totel) | 21,425 | 0 1 5,232 |



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AMPHITHEATER

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| In I to | × |
| Leader- Trng Morale Log Momen- In- Tech- Init- Vic- Adv Misship Exp. | ပ |
| -u- +e-1 | Z |
| Momen- tum |) |
| Log | Z |
| Morale | ပ |
| Trng Exp. | × |
| Leader- A/D CE ship | |
| CE | × |
| 0/ | < 0 |

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| M S A C | 7. 4 |
|--|------------|
| ^ P V | 2.5 |
| VIC- tor | × |
| | × |
| Leader- Trng Morale Log Momen- In- Tech- Init- Vic- Adv Misship Exp. | ၁ |
| -n- 1911 | Z |
| Momen- tum | Ĵ |
| Log | z |
| Morale | ပ |
| Trng Exp. | × |
| Leader- A/D CE ship | ၁ |
| CE | × |
| A/D | ▼ Q |
| | |

The British advance covered 2.5 kilometers instead of 1.3.



II-11

PORT OF SALERNO

HER0

| Front | 0.9 |
|------------|--------------------------------|
| Davs | 3 |
| Commanders | MG Hawkesworth MG Sickenius |
| Forces | Br 46th Inf Div MG Hawkeswort |
| Campalgn | Salerno |
| Dates | 9 - 11 Sep 43 Salerno |
| A/D | - & = |

LFW

| Dates | Campalgn | Forces | Commanders | Days | Front (Km) |
|-----------------------|----------|---|--------------------------------|------|------------|
| 9 - 11 Sep 43 Salerno | Salerno | Br 46th Inf Div + MG Hawkesworth KG's von Holtey & MG Sickenius Dornemann | MG Hawkesworth MG Sickenius | m | 0.9 |

The LFW Team provides more definitive identification of German forces.



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Yes.

BRITISH STRENGTH: PORT OF SALERNO

LOW

| 18,090 |
|---|
| • |
| |
| • |
| |
| Estimate |

High

Estimate

Nominal

22,110

| LFW Team estimate | 20,100* |
|---------------------------------------|---------|
| Replacements during battle | 0 |
| RTD | 0 |
| Attachments/detachments during battle | 0 |
| Total | 20,100 |

BASIC SOURCE: *46th British Infantry Division loading table strength minus approximately 6 percent to allow for Fifth Army weighting of 56th Division's attack with additional attached units.



BRITISH CASUALTIES: PORT OF SALERNO

158^{2} 704 634 774 142 174 Estimated casualties Estimated casualties LFW Team estimate "Non-Bloody" "Bloody" Nominal Nominal High High LOW Estimated casualties Estimated casualties LFW Team estimate

BASIC SOURCES:

1 Fifth Army Periodic Reports; 2 Mellor, Casualties and Medical Statistics.



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GERMAN STRENGTH: PORT OF SALERNO

LOW

3,500 2d Panzer Regiment at estimated organizational strength ...

High

7,340 Original German source document units at estimated strengths

Nominal

| 6,606 ² | 000 | 6,606 ned |
|---------------------|--|--|
| LFW Team's estimate | <pre>Attachments/detachments during battle</pre> | 2d Panzer Regiment [minus two companies and one battalion]: 2,500 plus 16th Recon [800], one assault gun company [200], Engineers [200], Transport [800], AAC artillery [280], attached PA [360], and GS artillery [2,200]. Strengths shown in footnote minus ten percent. |

BASIC SOURCES: Tenth Army War Diary and appendices.



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GERMAN CASUALTIES: PORT OF SALERNO

20** 457* 779 382 45 55 Estimate based on pro-rated casualties for entire Salerno Estimated casualties LFW Team estimate from experience of British forces "Non-Bloody" "Bloody" Nominal Nominal LFW Team estimate High LOW Estimated casualties campaign Estimated casualties

BASIC SOURCES: *Tenth Army War Diary and appendices;
British September 1943 daily NBC rate per thousand troops
was 2.6223333. This figure multiplied by 6.354 thousands
nominal start of battle strength and 3 battle days provides
50 NBC. **Mellor, Casualties and Medical Statistics.



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PORT OF SALERNO

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| Rottle | חמרוב | Casualties | Fan 3 o Armor %/D Arty %/D A/C %/D | - 2 3 | 170 0.3 ; 3 |
|----------|-----------------|-------------------|------------------------------------|------------------|-------------|
| A 4 | AIL | Sorties | 131 | 115 130 | - |
| Strength | Pers Armor Mrtv | (Total) T Lt. MBT | 12,917 0 0 0 138 | 4,250 38 0 38 46 | |
| | _ | Q/V | A | Ω | |

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| | | _ | _ | _ | _ | | | |
|---|----------|--------|--------------|-------------------------------|-----------------------|-------|----------|-------|
| | | Battle | Casualties | 9/10 Azt :: 19/10 14 10 19/15 | 2/D ALLY 6/D A/C 12/D | 3 3 | | 7 7 0 |
| | | | | Dore 7/D Armor 9/D | 70000 | 1.2 0 | 427, 2.1 | 7 |
| | 7 7 V | JTW | Arry Sorties | | ٠ | ٠. | ٠, | |
| | | - | Arry | Pcs | 10, | 104 | 70 | |
| - | - | Armor | | t. MBI | 0 60 | - | 2 77 | |
| | strength | V | 1 | 7 | 09 | 0 0 | 89 1 | |
| | 2 | Pers | /h (Tatal) | 110191 | 20,100 | 20162 | 0,000 | |
| _ | _ | | 4 | 1 | ⋖ | 2 | 4 | |



SELE-CALORE

HERO

Width of

| • | |
|--------------------|------------------------------|
| Front Days (Km) | 11.0 |
| Days | - |
| Commanders | MG Middleton |
| Forces | US 45th inf Div MG Middleton |
| Campaign | Salerno |
| Dates | 11 Sep 43 Salerno |
| 0/V | < 0 |

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| | | | | | | Width of | |
|------------|------------------------|----------|--------------------------------|--------------|------|-----------|---|
| ≯ L | D Dates | Campaign | Forces | Commanders | Days | Days (Km) | _ |
| _ < | A 11-12 Sep 43 Saterno | Saferno | US 45th Inf DIV - MG MIddleton | MG Middleton | 2 | 8.0 | |
| ٥ | | | KG's von Holtey & MG Sickenlus | MG Sickenius | | | |
| | | | Kieine Linebura | | | | _ |

Team also considered that there was no real break in the battle until the end of The LFW LFW Team determined further that the width of the front was not 11 kilometers 12 September: thus the battle covered not one day but two, as indicated. The LFW Team provides more definitive identification of German forces. but 8.

BASIC SOURCES: Graham and Bidwell, Tug of War; Fifth Army Periodic Reports; 45th Infantry Division after-action report and daily situation reports.



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U.S. STRENGTH: SELE-CALORE

LOW

13,089 45th Infantry Div [minus 1 regt and 1 additional battalion] strength based on organizational strength

High

15,211 45th Infantry Div [minus 1 regt and 1 additional battalion] strength based on organizational strength

Nominal

| LFW Team's estimate [mid-range between low and high] | 14,150 |
|--|--------|
| Replacements received during battle | 0 |
| RTD | 0 |
| Attachments/detachments during battle | 0 |
| | |
| Total | 14,150 |

BASIC SOURCES: Fifth Army Operations Orders and Periodic Reports; Graham and Bidwell, Tug of War. No replacements or RTD found in any source; unlikely in any case since this was the division's first action in Italy.



Social Modescool Operator (Arcessool Operator Carried Carried

U.S. CASUALTIES: SELE CALORE

*****†9 190 171 209 70 28 Division Daily Situation Reports and after-action report; *Lada, BASIC SOURCES: Fifth Army Periodic Reports and 45th Infantry Estimated casualties Estimated casualties "Non-Bloody" "Bloody" Nominal Nominal LOW Estimated casualties Estimated casualties Estimated casualties Estimated casualties



Medical Statistics in World War II.

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GERMAN STRENGTH: SELE-CALORE

LOW

| 3,500 | |
|--|------|
| | High |
| KGs | |
| known | |
| of | |
| strengths | |
| Low estimated strengths of known KGs . | |
| Low | |

Nominal

One-half of 16th Panzer Division at estimated strength

8,390

| 5,732 0 0 0 | 5,732 |
|---|-------|
| Original German source documents for units with estimated strengths | Total |

1 64th Panzer Grenadier Regiment [minus two battalions]: 1,972 plus two SP AAA batteries [280], one attached FA battery [180], Engineer Det [100], KG Kline Lineberg [1,200] and GS FA [2,000].

BASIC SOURCES: Graham and Bidwell, Tug of War; Tenth Army War Diaries and appendices.



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GERMAN CASUALTIES: SELE-CALORE

30^{1} 235 214 171 27 33 two days of this battle; Tenth Army War Diary and appendices; figure pro-rated on a daily basis and then multiplied by the Estimated casualties based on original German sources Graham and Bidwell, Tug of War, total Estimate based on experience of British forces Estimated casualties "Non-Bloody" Mellor, Casualties and Medical Statistics. Pro-rated estimate based on entire campaign "Bloody" Nominal Nominal High High Estimated casualties Estimated casualties BASIC SOURCES:



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SELE-CALORE

HERO

| | | | Pers %/D Armor %/D Arty 9/D A/C 19/D | 70 70 70 00 0 | ; ; 6.0 1 0.2 2 | 00 00 00 |
|----------|--------------------|-----|--------------------------------------|------------------------------------|----------------------|----------|
| Strength | Pers Amer Arty All | MRT | | [12,44/ 10b 1/ 89 84 18 | 0 8,390 78 0 78 90 7 | |

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| | Battle | Donof July Armor 9/10 Armor 9/10 1/21/21 | MOL ALD ALEY A/D A/ | 216 1 9 2 6 5 10 10 2 | / |
|----------|--------------|--|---------------------|-----------------------|---|
| | Governo Batt | Para 7/1 hr | 7 100 0 2 | 2 216 1 9 7 6.9 | |
| | Arty | | \ \a | - 04 | |
| Strength | Armor | T Lt, MBT | 72 20 52 | 2 0 | |
| Si | Pers | (Total) | 14,150 | 5,732 | |
| | | 3 | < | | |



SELE-CALORE

HERO

| 1 | ľ | | | | | | | | | | | |
|----------|----|---------|-------------------|---|----------------|--------|---------------------------------|--------|------------------------------|--------|-----------------|---------|
| _ | | | | | | | | | | | Distance | _ |
| | | Leader- | Leader- Training/ | | Logis- | Momen- | Logis- Momen- Intelli- Tech- | Tech- | Iniria- | | Advance Mission | Mission |
| <u>)</u> | CE | ship | Expertence | Σ | orale tics tum | tum | gence | nology | tive Victor (Km/Day) Accomp. | Victor | (Km/Day) | Accomp. |
| A | | ົວ | | ၁ | Z | ၁ | Z | N | × | X | 3.7 | 5 |
| Q | × | | × | | | | | | | × | | 9 |
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|---|----|---------|-------------------|---|----------------|--------|----------------------------------|--------|-------------------------------|--------|-------------------|---------|
| | _ | | | | | | | | | | Distance | |
| _ | | Leader- | Leader- Training/ | | Logis- | Momen- | Logis- Momen- Intelli- Tech- | | Initia- | | Advance Mission | Mission |
| | CE | ship | Experience | Σ | orale tics tum | tum | gence | nology | tive (Victor (Km/Day) Accomp. | Victor | (Km/Day) | Accomp. |
| • | | , | | , | ; | | | | | | | |
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| Ω | × | | × | | | | | | | | | 5 |
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German forces had orders to hold at all costs and thus failed to accomplish The LFW Team determined that the U.S. forces were the victors because they accomplished their mission. Mission accomplishment figures changed accordingly. their mission;



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| | | Resolution | | P. S | | | |
| | | Success | | × | | × | |
| tan and maneuver | | Secondary Attack | | 1 | | | *************************************** |
| I tall all | Main Attack and | A/D Scheme of Defense | | ſĸ, | 9,4 | 0/0 | • |
| | _ | A/D | _ | ∢ | ء - | | |

LFW

Plan and Maneuver

The LFW Team determined that there was a secondary attack and it was The LFW Team determined that the U.S. forces were the victors and thus gained Calore River while the two-battalion 157th RCT attacked north of the river. attack was weighted in favor of the three-battalion 179th RCT south of the frontal: both RCTs of the 45th Infantry Division were attacking, but the saccess.

BASIC SOURCE: Graham and Bidwell, Tug of War, pp. 72-75.



CONCIETS

BATTIPAGLIA I

HER0

| A/D Dates Campaign Forces Commanders Days Front (Km) A 12-15 Sep 43 Salerno Ger 16th Pz Div + MG Sickenfus 4 16.0 D Br 56th Inf Div + MG Graham | Ĵ, | | |
|---|----------------------|--------------------|-------------------|
| Dates Campaign Forces Commanders 12-15 Sep 43 Salerno Ger 16th Pz Div -+ MG Sickenfus Br 56th Inf Div + MG Graham | Width of Front (K | 16.0 | |
| A/D Dates Campaign Forces Commanders A 12-15 Sep 43 Salerno Ger 16th Pz Div -+ MG Sickenfus D Br 56th Inf Div + MG Graham | Days | 7 | |
| A/D Dates Campaign Forces A 12-15 Sep 43 Salerno Ger 16th Pz Div -+ D Br 56th Inf Div + | Commanders | MG Sickenius | MG Graham |
| A/D Dates Campaign A 12-15 Sep 43 Salerno D | Ŧ | Ger 16th Pz Div -+ | Br 56th Inf Div + |
| A/D Dates A 12-15 Sep 43 D | Campaign | Salerno | |
| A/D D | | 1215 Sep 43 | |
| | A/D | A | О |

LFW

| | | | | | | | Width of |
|----------------|-----|--------------|----------|---|--------------|------|-----------------|
| ¥ا | | Dates | Campaign | Forces | Commanders | Days | Days Front (Km) |
| | - V | 12-15 Sep 43 | Salerno | A 12-15 Sep 43 Salerno Ger 16th Pz Div + MG Sickenius | MG Sickenius | 4 | 16.0 |
| _ _ | Q | | | Br 56th Inf Div + MG Graham | MG Graham | | |
| _ | | | | | | | |

division devoted its principal effort to this battle and had been reinforced The LFW Team deleted the minus from the 16th Panzer Division because the prior to the battle.



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BRITISH STRENGTH: BATTIPAGLIA I

LOW

| | 19,330 |
|---|---|
| minus | • |
| Amphitheater | |
| [low | |
| 56th Infantry Div plus strength [low Amphitheater minus | high estimated casualties] |
| Infantry Div | gh estimated |
| 56 th | h1 |

High

21,658 56th Infnatry Division plus strength [high Amphitheater minus low estimated casualties].......

Nominal

| | 20,494 | 0 | 41 | - 3,300 | |
|--|-------------------------------|-------------------------------------|-----|---------------------------------------|--|
| LFW Team's estimate [nominal Amphitheater strength minus | nominal estimated casualties] | Replacements received during battle | RTD | Attachments/detachments during battle | |

17,235

Total

BASIC SOURCES: Graham and Bidwell, Tug of War; Fifth Army Operations Orders and G-3 Journal. RTD figure is pro-rated daily share [23 percent] of 35 percent of 55 percent of Amphitheater casualties eventually returned to duty in 22 days [Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics in World War II.]



BRITISH CASUALTIES: BATTIPAGIIA I

| "Bloody" | |
|--|-------|
| Гом | |
| Estimated casualties | 810 |
| High Estimated casualties | 066 |
| Nominal LFW Team's estimate | *006 |
| "Non-Bloody" Low Estimated casualties | 193 |
| High Estimated casualties | 235 |
| Nominal LFW Team's estimate | 214** |
| BASIC SOURCES: *Fifth Army Periodic Reports; ** Mellor, Casualties and Medical Statistics. | |



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GERMAN STRENGTH: BATTIPAGLIA I

Low

| 21,166 |
|-----------|
| |
| strength |
| Estimated |

High

| 25,870 |
|-------------|
| |
| trength |
| Estimated s |

Nominal

| 23,518 | 23,518 |
|---|--------|
| Estimated strength of German 16th Panzer Division plus attached KGs | Total |

BASIC SOURCE: Tenth Army War Diary and appendices.



GERMAN CASUALTIES: BATTIPAGLIA I

| "Bloody" Low Pro-rated estimate based on entire campaign | 900 |
|---|--------------------|
| High Estimated casualties | 2,193 |
| Nominal LFW Team estimate based on original German sources | 1,994 ² |
| . "Non-Bloody" Low Estimated casualties | 221 |
| High Estimated casualties | 271 |
| Nominal Estimate based on experience of British forces | 2463 |
| BASIC SOURCES: Graham and Bidwell, Tug of War, total campaign figure divided by campaign days and multiplied by gays of this battle; Tenth Army War Diary and appendices; Mellor, Casualties and Medical Statistics. | |



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BATTIPAGLIA I

HERO

| 0.4+1 | partie | Casualties | Pers 2/D Armor 2/D Arry 2/D 4/5 9/D | 1 9 9 | | , o.c. co. |
|----------|--------|-------------|-------------------------------------|------------------|----------------------------|---|
| | AIL | Sorties | | 112 | 5 30 | 777 |
| Strength | | T ACTOOL | 730 00 0 00 10 100 | 901 68 0 60 0675 | 11.230 30 0 30 1.6 | 7 |
| | Pers | A/D (Total) | , , , | ٦, ۲ | ID 11.230 | |

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| | barrie Camaltica | Dong 17/11 Ar | 1 1/ P 2 P R L V | 0 2 | , <u> </u> |
|---|---------------------|---------------|------------------|---------|------------|
| \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \ | Cortica | 100 | 6 | ۰. | |
| | Arrv | Pcs | 108 | 135 | |
| Strength | Armor | Lt. MBT | 36 72 | 62 0 62 | |
| Stre | | ₽ | 108 | | |
| | Pers | (Total) | 23,518 | 20,494 | |
| | | 3 | ≤ | | |



VIETRI I

HERO

| . (E) | | |
|-----------------------------|--|---------------------------------|
| Width of Days Front (Km) | 14.5 | |
| Days | 7 | _ |
| Commanders | MG Schmaltz | MG Hawkesworth |
| Forces | A 12-15 Sep 43 Salerno Ger Herman Goering MG Schmaltz Pz Div (+) | Br 46th Inf Div + MG Hawkeswort |
| Campaign | Salerno | |
| Dates | 12-15 Sep 43 | |
| A/D | A | Q |

LFW

| | | | | | | Width of |
|-----|--------------|----------|--|----------------|------|----------------|
| A/D | A/D Dates | Campaign | Forces | Commanders | Days | Days Front (Km |
| А | 12-15 Sep 43 | Salerno | 12-15 Sep 43 Salerno Ger Herman Goering Col Schmaltz Pz Div (-) | Col Schmaltz | 7 | 17.0 |
| Q | | | Br 46th Inf Div + MG Hawkeswort | MG Hawkesworth | | |

the Salerno Campaign used only 6 of 8 battalions (Graham and Bidwell, Tug of War). The LFW Team determined that the width of the front was 17 kilometers rather than 14.5 and that the Herman Goering Panzer Division should be designated with a (-)rather than a (+); the division at its greatest strength during any portion of



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TOTAL SEEDS BOOKED BOOKED BOOKED BOOKED BOOKED BOOKED BOOKED

BRITISH STRENGTH: VIETRI I

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222 23. 225

Port of Salerno minus high casualty estimate]..... 46th Infantry Div plus strength [low estimated strength at

High

21,334 46th Infantry Div plus strength (high estimated strength at Port of Salerno minus low casualty estimate] ..

Nominal

| | 19,238 | 0 | 38 | 4.280* | Total 23,556 | [700] attached |
|--|---|-------------------------------------|-----|-------------|--------------|---|
| LFW Team's estimate [nominal estimated strength at Port of | Salerno minus normal casualty estimate] | Replacements received during battle | RTD | Attachments | | *167th Bde [3,300] and one U.S. TD battalion [700] attached September 13. |
| LFW Team's e | Salerno mi | Replacements | RTD | Attachments | | *167th Bde [3, September 13. |

attached 13 September. [Fifth Army Operations Orders, Periodic Port of Salerno casualties eventually returned to duty within BASIC SOURCES: Graham and Bidwell, Tug of War; RTDs are prorated daily share [23 percent] of 35 percent of 55 percent of 3,300 and one U.S. TD battalion at estimated strength of 700 22 days; attachments are 167th Bde at estimated strength of Reports, and G-3 Journal.]



BRITISH CASUALTIES: VIETRI I

| "Bloody" | |
|--|--------|
| Estimated casualties | 986 |
| Estimated casualties | 1,205 |
| Nominal LFW Team estimated casualties | 1,095* |
| "Non-Bloody" Low Estimated casualties | 181 |
| Estimated casualties | 221 |
| Nominal LFW Team estimated casualties | 201** |
| BASIC SOURCES: *Graham and Bidwell, Tug of War, and Fifth Army Periodic Reports; ** Mellor, Casualties and Medical Statistics. | |



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GERMAN STRENGTH: VIETRI I

LOW

| 6,472 | | |
|----------------------|---|--|
| Estimated casualties | • | |
| Estimated | | |

High

| 7,910 |
|------------|
| |
| casualties |
| Estimated |

Nominal

| 7,191 0 0 | 7,191 |
|--|-------|
| Estimated strengths of German 16th Panzer Division plus attached KGs | Total |

BASIC SOURCES: Tenth Army War Diary and appendices.



GERMAN CASUALTIES: VIETRI I

75** 496* 333 394 99 83 [No casualties available *Graham and Bidwell, Tug of War, **Mellor, Pro-rated estimate of casualties for entire campaign Estimate based on experience of British forces "Non-Bloody" "Bloody" Nominal Nominal High High Estimated casualties LOW Casualties and Medical Statistics. Estimated casualties from normal German sources.] LFW Team estimate Estimated casualties BASIC SOURCES:



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VIETRI I

HERO

| Battle | Ca | ers %/D Armor 9/D Art. 9/D 1/ | | ¿ ; ; C-T 006 | 1 1642 3 2 2 2 |
|----------|-----------|-------------------------------|---------|--------------------------|----------------|
| 442 | y Sortios | | 113 | 711 | 40 |
| | Arty | Pcs | 1,71 | +01 | 146 |
| | | t. MBT Pcs | 177 001 | OOT | 30 146 |
| gth | Armor | Lt. | 0 | > | 0 |
| Strength | | T | 108 | 001 | 30 0 |
| | Pers | A/D (Total) | 15 000 | 000614 | 12,917 |
| | | A/D | ٧ | | a |

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| | 0 | ies | Arrv | | ۲. | ٠ |
| | Rate 1a | Sactie Sasualties | %/D | + | - ∞ ∞ | |
| | | Cas | Armor 2/D Arty 2/D 14 | | ٠. | ۰ |
| | | | V 0/2 | | 7 | 7 |
| | | | Pers 7/D | | 394 11.4 | 0941.4 |
| ŀ | _ | U | | ľ | | _ |
| l | Air | 11 rtio |) ; | , | ٠. | ٠. |
| | ٧ | . S | | | | |
| ſ | | Arty Sorries | Pcs | 10 | 77 | 156 |
| | | 1 | MBT | 0.0 | ()7 | 51 |
| 1 | th | Armor | Lt. | 0 | > | 63 |
| 000 | שרו בווצרוו | | T | 20 | 77 | 1114 63 5 |
| ٥ | 0 | S | A/D (Total) | 11 | - | 19.238 |
| | | Pers | Tota | 7 101 | , | 19.2 |
| _ | ۷ | _ | 긐 | _ | _ | 4 |
| | _ | | Z | < | ς | 9 |



BATTIPAGLIA 11

HERO

Width of

| 7 | |
|--------------------|--|
| Front Days (Km) | 12.0 |
| Days | 2 |
| Commanders | MG Templer MG Luttwitz |
| Forces | Br 56th Inf Div + MG Templer Ger 26th Pz Div E MG Luttwitz Ger 16th Pz Div E |
| Campalgn | Salerno |
| Dates | 7-18 Sep 43 Salerno |
| e | |

LFW

Width of

| Front Days, (Km) | 12.0 |
|---------------------|---|
| Days, | 2 |
| Commanders | MG Templer MG Sickenius |
| Forces | A 17-18 Sep 43 Salerno Br 56th inf Div + MG Templer D Ger 16th Pz Div + MG Sickenius |
| Campaign | Salerno |
| Dates | 17-18 Sep 43 |
| 9/0 | < ⊆ |

officer already on the field; thus arriving elements of the 26th Panzer Division German doctrine specified that reinforcing units be attached under the senior were attached to the 16th Panzer Division under command of MG Sickenius.



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BRITISH STRENGTH: BATTIPAGLIA II

Low

14,808 high estimated casualties and detachments] 56th Infantry Div plus strength [low Battipaglia I minus

High

low estimated casualties and detachments] 56th Infantry Div plus strength [high Battipaglia I minus

Nominal

| | 16,083 | 250 | 161 | 700 |
|---|-----------------------------|-------------------------------------|-----|--|
| LFW Team's estimate [nominal Battipaglia I minus norminal | casualties and detachments] | Replacements received during battle | RTD | Attachments [U.S. TD Bn] during battle |

* * * *

17,194

Total

replacements who remained after a mutiny on the beaches: Graham and Bidwell, Tug of War, pp. 92-93. ** Pro-rated daily share [41 percent] of 35 percent of 55 percent of Amphitheater and Battipaglia I nominal casualties eventually RTD in 22 days, Mellor, Casualties and Medical Statistics. ***Fifth Army Operations Order.



BRITISH CASUALTIES: BATTIPAGLIA II

| 352 | 430 | 391* | 77 | 96 | 85** |
|-----------------------------------|---------------------------|---------------------------------------|---------------------------------------|------------------------------|---------------------------------------|
| "Bloody" Low Estimated casualties | High Estimated casualties | Nominal LFW Team estimated casualties | "Non-Bloody" Low Estimated casualties | High Estimated casualties | Nominal LFW Team estimated casualties |



BASIC SOURCES: *Fifth Army Periodic Reports; **Mellor,

Casualties and Medical Statistics.

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GERMAN STRENGTH: BATTIPAGLIA II

LOW

| 27,157 | |
|----------|------|
| Estimate | High |

Nominal

Estimate

| 30.1 | . | 30, |
|--|-------------------------------------|-------|
| Estimated strengths of German 16th Panzer Division plus attached KGs | Replacements received during battle | Total |

BASIC SOURCES: Tenth Army War Diary and appendices.



BATTIPAGLIA II GERMAN CASUALTIES:

| 347* | 3,128 | 2,844** | ly" les 158*** | 1,265 | 1,150** | |
|---|---------------------------|---------------------------------------|---|---------------------------|---------------------------------------|--|
| "Bloody" Low Pro-rated estimate based on entire campaign | High Estimated casualties | Nominal LFW Team estimated casualties | "Non-Bloody" Low Estimate based on experience of British forces | High Estimated casualties | Nominal LFW Team estimated casualties | |

BASIC SOURCES: *Graham and Bidwell, Tug of War; **Tenth Army War Diary, appendices, and periodic reports; ***Mellor,

Casualties and Medical Statistics.

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TOTAL SAMEN BOUNDE STORY

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BATTIPAGLIA II

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| | | טרו כווקרוו | ייצרוו | | | A f v | | | | Battle | | | |
|-----|-------------|-------------|----------|-----|------|---------|-------------|--------|----------|------------------------|-------------|-------|---|
| | Pers | | Armor | | Arty | 110 | | | <u> </u> | Cacualtice | | | |
| 1/1 | A/D (Total) | F | - | MRT | Dog | sorries | Doz. 619/10 | J. 77. | | 2017172 | - | | 7 |
| | | 1 | | | 153 | | ניני | / n/» | Armor | Armor %/D Artv %/D A/C | / W/D A / | (%) | , |
| A | 14,730 | 16 | 7 | 93 | 152 | 94 | 300 | 1.0 | ç. | 6 | | 1 | 7 |
| Ω | 6.995 | 58 | c | 2,0 | 8 | 31 | 110 0 0 | a | , | | _ | | - |
| | | | <u> </u> | | | 7. | 2 | 0 | | | | 1 | - |

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| | | | %/D | | |
|-----|----------|--------------|-------------------------------------|--------|-----------|
| | | | A/C | ٠ | ٠, |
| | | | Q/% | 1 | |
| | ٥ | ties | Artv | c | ۰ د |
| | Rattle | Casualties | Q/% | 1 | ŀ |
| | | Ca | Pers %/D Armor %/D Arty %/D A/C %/D | ٠, | |
| | | | g/% | 1.2 | 7 7 |
| | | | Pers | 391 | 7 244 4 7 |
| | Afr | Arty Sorties | | ż | ٠, |
| | | Arty | Pcs | 135 | 78 |
| | | | MBT. | 65 | 95 |
| | Armor | Lt. | 132 67 | 35 | |
| 100 | ərrengrn | | | 132 | 81 |
| | 1 | Pers | A/D (Total) | 16,083 | D 30 174 |
| ۲ | | | ᆿ | _ | |



EBOL I

HERO

Width of

| | , | | |
|-------------|---------------|------------------------------|----------------------------------|
| Front | | 7.5 | |
| 2 | Cars | 2 | |
| Cossayodere | 6 100 1111100 | MG Middleton | MG Luttwitz |
| Forces | | US 45th Inf Div MG Middleton | Ger 26th Pz Div+- MG 1 uttwitz |
| Campalan | | Salerno | |
| Dates | | A 17-18 Sep 43 Salerno | |
| 0/V | | < | 0 |

LFY

Width of

| 0/V | Dates | Campaign | Forces | Commanders | Days | Front Days (Km) |
|-----|-------------|----------|--|------------------------------|------|-----------------|
| < 0 | 7-18 Sep 43 | Salerno | 17-18 Sep 43 Salerno US 45th Inf Div - MG Middleton Ger 16th Pz Div + MG Sickenius | MG Middleton MG Sickenius | 2 | 0 • 8 |

officer already on the field; thus arriving elements of the 26th Panzer Division German doctrine specified that reinforcing units be attached under the senior were attached to the 16th Panzer Division under the command of MG Sickenius. The LFW Team determined that the width of the front was 8 kilometers rather than 7.5.



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U.S. STRENGTH: EBOLI

Low

| 12,958 |
|--------------------------------------|
| |
| strength |
| Division plus |
| 45th Infantry Division plus strength |

High

15,728 45th Infantry Division plus strength

Nominal

| 14,150* 243** 34*** 180**** | 14.607 |
|--------------------------------------|--------|
| Replacements received during battle | Total |

BASIC SOURCES: *Fifth Army G-3 Journal and Periodic Reports; **45th Infantry Division after-action report; ***Lada, Medical Statistics World War II; ****Fifth Army Operations Order.



U.S. CASUALTIES: EBOLI

| "Bloody" Low | |
|--|------|
| Estimated casualties | 175 |
| High Estimated casualties | 213 |
| Nominal LFW Team estimated casualties | 194* |
| "Non-Bloody" Low Estimated casualties | 59 |
| High Estimated casualties | 73 |
| Nominal LFW Team estimated casualties | ¥*99 |
| BASIC SOURCES: *Fifth Army Periodic Reports; ** Lada, Medical Statistics World War II, p.27. | |



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GERMAN STRENGTH: EBOLI

LOW

| 21,959 | |
|--------------------|------|
| Estimated strength | Figh |
| strength | |
| Estimated | |

Nominal

Estimated strength

26,839

| 24,174 | 225 | 0 | 24,399 |
|--------------------------|-------------------------------------|---------------------------------------|--------|
| Recorded German strength | Replacements received during battle | Attachments/detachments during battle | Total |

BASIC SOURCES: Tenth Army War Diary and appendices.



GERMAN CASUALTIES: EBOLI

126*** 315** 4224 284 113 139 Pro-rated estimate based on entire campaign Estimated casualties LFW Team estimate based on experience of British forces "Non-Bloody" "Bloody" Nominal LFW Team estimated casualties Nominal High Estimated casualties Estimated casualties

BASIC SOURCES: *Graham and Bidwell, Tug of War;
**Tenth Army War Diary, periodic reports, and appendices;
***Mellor, Casualties and Medical Statistics [British
September 1943 daily NBC rate per thousand troops was
2.6123333; this figure multiplied by nominal German strength,
24,174, and 2 battle days provides 126 NBC.]



II-48

| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100

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| Battle | Ca | s %/D hrm | 7 2 2 | |
|----------|--------------|-------------|------------------|-------|
| L | 9 | Pe | ř | - 2 |
| A 4 Y | Arty Sorties | 100 | 156 | 10 |
| | Arty | Pcs | 106 | 80 |
| | | MBT | 68 | 59 |
| ;th | Armor | Lt. | 17 | 0 |
| Strength | | Ţ | 106 | 59 |
| S | Pers | A/D (Total) | 15,576 106 17 89 | 6,702 |
| | | A/D | A | |

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| | 1 B B | tr T | Armor Lt. | fBT 63 | Arty Pcs 140 | Arty Sorties P | Pers %/D 194 0.7 | 1 1 - 1 | \range \r | Battle Casualties or %/D Arty | e ies Arty ? | 1 d/% | 1 0 1 | 2/D |
|----|---------|---------|--------------|-----------|--------------------|----------------|---------------------|---------|--|-------------------------------------|-----------------------|-------|-------|-----|
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| | 27, 200 | | |) (| | • | , T | : | | ! | ٠. | i | 7 | |
| ⋖. | 14,150 | 210 | 147 | 63 | 140 | ٠٠ | 194 | 7.0 | ٠ | ! | ٠ | | _ | , |
| 1 | | | 1 | MBT | Pcs | | Pers | 2/D | Armor | 7/D/% | Arty | / u/% | 1/c | |
| | rers | | Armon | | Arty | Sorties | | | Ca | sualt | ies | | | |
| _ | Dare | | | | _ | ; | | | (| 1,50 | υ. | | | |
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II-49

INTRODUCTION AND BIBLIOGRAPHY: VOLTURNO

As per contract, the LFW Team reviewed/reassessed the following battles:

Grazzanise, 12-14 Oct 1943 Castel Volturno, 13-15 Oct 1943 Triflisco, 13-14 Oct 1943 Dragoni, 15-17 Oct 1943 Canal I, 17-18 Oct 1943 Monte Grande, 16-17 Oct 1943 Francolise, 20-22 Oct 1943 Monte Rotondo, 8-10 Nov 1943 Monte Maggiore, 2-3 Dec 1943

The basic source for statisical data on the battles of the Volturno Campaign were the official records, of which the Fifth Army Periodic Reports were the most valuable source.

Since there was only minor combat between the end of the Salerno Campaign and the start of the Volturno battles, the starting point for determining the strengths of the three British divisions involved at Salerno and Volturno was the strength after the final Salerno battle, plus any replacements or RTD. In the case of the three American divisions, all were experiencing their first combat action in Italy and thus would have been at or near full strength. Since one British division, the 7th Armoured, was involved in three of the battles, there could be some carry over of strength minus casualties from one battle to the next.

The primary source for "bloody" casualties were the Fifth Army Periodic Reports and for "non-bloody" casualties, Lada or Mellor, as explained in the general introduction and on the appropriate charts.

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G-1 and G-3 Journals.

3d Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 7th Infantry, 15th Infantry, and 30th Infantry.

34th Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, Division Artillery Journal, and G-1 and G-3 Journals; After-Action Reports, Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 123d Infantry, 130th Infantry, and 136th Infantry.

36th Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, and G-1 and G-3 Journals; After-Action Reports, Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 141st Infantry, 142d Infantry, and 143d Infantry.

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56th Infantry Division, Operations Report, Public Records Office, London.

German Records

OKW KTB [War Diary of the Supreme Command of the Armed Forces], vol. 6, as cited in Salerno sources.

AOK 10, KTB [Tenth Army War Diary] and Anlagen as cited in Salerno sources [Microfilm Collections T-312, rolls 18, 80, and 86; T-78, roll 641; and T-123, roll 80].

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Starr, LTC Chester G., Salerno to the Alps [Washington: Infantry Journal Press, 1948].

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LFW MANAGEMENT ASSOCIATES, INC. REVIEW

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CAA TASK 3 REQUIREMENTS

LFW'S INDEPENDENT REVIEW/REASSESSMENT OF NINE ANOMALOUS BATTLES

PROM THE VOLTURNO RIVER CAMPAIGN

BRITISH STRENGTH: GRAZZANISE

LOW

| | 10,870 |
|---|-----------|
| Known organizational strength Br 7th Armd Div (+) minus l | Tank Regt |
| Known organizational | Tank Regt |

High

| | 12,650 |
|---|-----------|
| Known Organizational strength Br 7th Armd Div (+) minus 1 | Tank Regt |

Nominal

| 11,756* | 133** | 183*** | 0 | 12,072 |
|------------------------------|--------------|--------|---------------------------------------|--------------|
| Low Grazzanise unit strength | Replacements | RTD | Attachments/detachments during battle | LFW estimate |

BASIC SOURCES: *September 1943 daily "bloody" and "non-bloody" casualties per 1,000 troops were 2.5077419. Since the 7th Armored Div. was initially committed to Italy on September 15, accumulated casualties based on 12,650 troops, would be 894 by October 12, 1943. [Mellor, Casualties and Medical Statistics, p. 238]. **7th Armored Division pro-rated share of replacements



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Tug of War]. ***On the basis that 35 percent of the 55 percent of all casualties RTD after 22 days, the daily casualty rate per thousand multiplied by the two percentage figures provides an approximate RTD rate per thousand troops. The daily RTD [.51359 for September and .4827403 for October] multiplied by 12.65 thousand troops and the appropriate number of days provides 183 troops RTD through October 14, 1943. [Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics World War II.]



BRITISH CASUALTIES: GRAZZANISE

| | */ | 179 | 165** | 95 | 117 | 88 88 | 106 | < |
|----------|----------------------|---------------------------|---------------------------------------|---|------------------------------|--|-------|--|
| "Bloody" | Estimated casualties | High Estimated casualties | Nominal LFW Team estimated casualties | "Non-Bloody" Low Estimated casualties | High Estimated casualties | Estimate based on MIAs reported to Fifth Army Estimate based on NBCs in Casualties and Medical Statistics | Total | BASIC SOURCES: *The October 1943 monthly rate of "Bloody" casualties per 1,000 British troops was 6.37. Multiplying 6.37 by 11.756 nominal estimate of thousands of troops divided by 31 days provides a daily rate of 2.4156683 casualties. Multiplying the daily rate by 3 battle days equals 7 casualties [Mellor, Casualties and Medical Statistics]. **Fifth Army Periodic Reports. |

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GERMAN STRENGTH: GRAZZANISE

Low

| 6,586 | | 8,050 | |
|---------------------------|------|---------------------------|---------|
| Estimated German strength | High | Estimated German strength | Nominal |
| strength | | strength | |
| German | | German | |
| Estimated | | Estimated | |

| 7,318 | 0 | 0 | 7,318 |
|--------------------------|-------------------------------------|---------------------------------------|-------|
| Recorded German strength | Replacements received during battle | Attachments/detachments during battle | Total |

BASIC SOURCES: Tenth Army War Diary and appendices; XIV Panzer Corps War Diary and reports.



GERMAN CASUALTIES: GRAZZANISE

| "Bloody" Low | |
|--|------|
| Estimated casuaities | 81 |
| Estimated casualties | 439 |
| LFW Team estimate | *06 |
| "Non-Bloody" Low | 23 |
| High Estimate from experience of British forces | 51** |
| Nominal Estimate from German reports | 25* |
| BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **The October rate of NBC per thousand [72.62] per month multiplied by strength in thousands [7.318] divided by 31 and multiplied by three battle days. [Mellor, Casualties and Medical Statistics, p. 238.] | |



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GRAZZANISE

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| 1 1 | nariae | Casualties | D Artw 9 | 6 | | ~ ~. |
| 100 | na r | Casua | Armori %/D | | - | - |
| | | 6/ /2 | ers/%/N Wr | 370 0 8 3 | | 80 0.3 7 |
| - | Alr | Sorties | 7 | 0 | | |
| | Artv | Dog | | 89 | 7 | 7 |
| | | MRT | | 155 | 30 | |
| Strength | Armon | T | | 158 3 | 30 | 7 |
| S | Pers | (Total) | | 14,557 | 8 068 | |
| | _ | A/D | _ | Ç | | |

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|----------|----------------------|------------------|----------------------------|-------------------|--------------------|
| Strength | Pers Armor Arty | l) T Lt. MBT Pcs | A 111,756 1123 3 120 102 9 | D 7.318 25 0 25 6 |) [6 67 6 67 |



GRAZZANISE

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LF

z Mass Log z Terr Ldshp Plans Sup z z z Air Pre-Res Mob Sup Pond. Wther z Force z For. A/D Qual

Force quality and availability of reserves both favored the attackers, who also had a preponderance of forces.



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GRAZZANISE

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| | s Resolution | ٠, |
|-------------------|-------------------|-----------|
| | Success | × |
| Maneuver | Secondary Attack | 1 1 |
| Plan and Maneuver | Scheme of Defense | RIVC D |
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| Main Attack and Manauver Schame of Defense Secondary Attack Success Riv C (LF) | | | Resolution | Ь | QM |
|--|----------|---------|----------------------|------------|----|
| neue Mene | | | Success | × | |
| Main Attack and Scheme of Defense D | Maneuver | | Secondary Attack | RIV C (LF) | |
| 1 2 1 | Pien end | ttack a | /D Scheme of Defense | FE | O |

facilitate other crossing operations by pinning down German forces. Crossing the river was a secondary effort, which was executed not on the right flank, but on the left. It was a success, and defending German forces withdrew. The principal effort of the 7th Armored Division was to stage a feint to



CONCEPTS ANALYSIS AGENCY

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BRITISH STRENGTH: CASTEL VOLTURNO

Low

| | losses [2,697] | known organization1 strength Br 46th Div (+) minus Salerno |
|---|-------------------|--|
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| | • | Вr |
| | : | 46 th |
| | : | DIV |
| | • | \pm |
| | • | minus |
| | : | Sa |
| | • | lerno |
| , | 17,403 | |

High

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|---|---|--|
| | nown | |
| | Known organizational strength Br 46th Div | |
| | strength | |
| • | \mathtt{Br} | |
| | 46 th | |
| | Dίν | |
| | (+) | |
| | • | |
| | 20,100* | |

Nominal

of 20.1 thousands times 2.668 times 21 subtracted from 20,100 = calculated as follows: a cumulative "Bloody" and "Non-Bloody" loss of 1,703. This was start strength in thousands] times 2.5077419 times twelve [577]. The result "Bloody" and "Non-Bloody" losses of 2.668 and 2.5077419 provides 18,974 plus RTD through 1 October [207] minus 19.181 [October for 21 days in September and 12 days in October at respective BASIC SOURCES: *46th Div loading table for Salerno landing [Operations Report, 46th Inf Div]; **Division in combat Port of Salerno start of battle strength



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[18,604] plus III RTDs [.4827403 per thousand per day times 19.181 times twelve] is 18,725. This figure minus the pro-rated 33 percent of the 3,000 British troops captured during the Salerno campaign provides a nominal Castel Volturno start of battle strength of 17,848 when 133 replacements received during the Salerno Campaign are added. [Graham and Bidwell, Tug of War.] ***As 35 percent of the 55 percent of all casualties eventually returned to duty do so in 22 days, the October British RTD rate was .4827403 [35 times 55 times 2.5077419]. This rate times 3 battle days equals 26. [Mellor, Casualties and Medical Statistics.]



BRITISH CASUALTIES: CASTEL VOLTURNO

"Bloody"

123*** 32** 356** 1]* 392 $\begin{array}{c} 29 \\ 1118 \\ \hline 179 \end{array}$ 35 118 147 Estimate based on Casualties and Medical Statistics Estimated casualties Estimated casualties Estimated MIAs Estimated NBCs Estimated MIAs Estimated NBCs "Non-Bloody" Nominal Nominal MIAS

thousand troops per month. This figure multiplied by 17.848 thousand, divided by 31 days, equals 11. [Mellor, Casualties and Medical Statistics, p. 238]. **Fifth Army Periodic Reports; ***October "Non-Bloody" rate was 2.302258 per thousand British troops. This figure multiplied by 17.87 thousands and then 3 provides 123.



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GERMAN STRENGTH: CASTEL VOLTURNO

Low

| 6,586 | |
|--------------------|------|
| Estimated strength | High |

Nominal

Estimated strength

8,050

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



GERMAN CASUALTIES: CASTEL VOLTURNO

"Bloody"

51*** 84** 125** 438* 138 9/ BASIC SOURCES: *Graham and Bidwell, Tug of War, pp. 91-92; **Tenth Army and XIV Panzer Corps War Diaries and appendices; Reported German MIA [103] and NBC [22] reports Estimated casualties Estimate based on experience of British forces Estimated casualties Estimate based on pro-rated entire Volturno Campaign "Non-Bloody" Nominal Nominal Nowinal High Estimated casualties Casualties



***October "Non-Bloody" casualty rate was 2,302258 per thousand British troops per day; multiplying this figure by 7.318 thousands

and then 3 provides 55 [Mellor, Casualties and Medical

Statistics, p. 238].

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CASTEL VOLTURNO

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| Battle sualti rmor%/ | _ |
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| C 2/D 1.4 | 0.3 |
| | _ |
| Pers 500 | 40 |
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| Air Sorties | <u> </u> |
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| Art Pcs 199 | 7 |
| MBT 51 | 35 |
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| Pers Total) | , 158 |
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| | | | Pers %/D Armon%/D Arty %/D A/C %/D | 2 | - 3 |
|--|----------|---------------------------------------|------------------------------------|---------------|--------------|
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| | |) | %/D | 356 0.7 | 84 0.4 |
| | | | Pers | 356 | 84 |
| | | Air | T Lt. MBT Pcs Sorties | ż | ٠ |
| | | Arty | Pcs | 160 | 108 |
| | Strength | | MBT | 123 3 120 160 | 45 21 24 108 |
| | | | Lt. | 3 | 21 |
| | | | T | 123 | 45 |
| | St | i | (10cal) | 17 848 | D (7,318 |
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CASTEL VOLTURNO

HERO

Plan and Maneuver

| Success Resolution | - | д, Ж | WD | |
|---------------------------------------|----------|---------|----|--|
| Secondary Attack | (= 4) = | E(KF) | ı | |
| A/D Main Attack and Scheme of Defense | , f | KIVC | Q | |
| A/D | _ | ¥ | D | |

LFW

Plan and Maneuver

| | Main Attack and | | | |
|-------|-------------------|------------------|---------|------------|
| 4 | Scheme of Defense | Secondary Attack | Success | Resolution |
| A | RivC | E(LF) | × | <u>P</u> |
| 4 | D | | | WD |

The British made their secondary attack not on the right flank but on the left.



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U.S. STRENGTH: TRIFLISCO

Low

| | 17 552* |
|---|-----------------------|
| [18,476] | |
| inf Div (+) | |
| th US 3d I | • |
| nl streng | t [924] . |
| Known organization! strength US 3d Inf Div (+) [18,476] | minus 5 percent [924] |

High

| 18,476* |
|-------------------|
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| Organizational |
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Nominal

| 18,196 | 0 | 26 | 0 | 18,222 |
|--------------|--------------|---------|-------------------------|--------|
| LFW estimate | Nepracements | Attack. | Artachments/detachments | Total |

daily RTD rate, based on the 22-day average return [35 percent thousand. Over the thre-day battle period this equals 129. size of unit first entering combat in theater; ***October of the 55 percent of all casualties RTD] was .4827403 per Operations Orders; **LFW Team estimate of rear detachment BASIC SOURCES: *TO&E and VI Corps Periodic Reports and [Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics World War II



69-II

U.S. CASUALTIES: TRIFLISCO

| C | 17 | 32* | ** 30** | 4 | 128 | 5 281 | 286 | 4** 255** 259 |
|--------------|----------------------|----------------------|----------------------|----------------|---------------------------|----------------|-------|---------------------|
| "Bloody" Low | Estimated casualties | Estimated casualties | Estimated casualties | Estimated MIAs | Estimated NDCs Total High | Estimated MIAs | Total | Reported MIAs |

BASIC SOURCES: *Daily wounded non-effective rate was 1.8 per thousand; multiplying this figure by 18,196 thousands provides 32. [Lada, Medical Statistics World War II]; **Fifth Army Periodic Reports; ***The Mediterranean Theater experienced 828 NBC per thousand troops per year; multiplying 18.196 thousands by 828 and dividing by 365 provides a 41.277501 per division daily battle rate. Multiplying this by the three battle days provides 124 NBC [Lada, Medical Statistics World War II].



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GERMAN STRENGTH: TRIFLISCO

Low

Nominal

Estimated strength

9,166

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| וחרמו | 0,00 |

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



GERMAN CASUALTIES: TRIFLISCO

"Bloody"

| 88 | 108 | *86 | 194 | 214 | s ••• 204 |
|----------------------|----------------------|-------------------------------|----------------------|----------------------|---|
| Low | High | Nominal and WIAs | "Non-Bloody" Low | High | Nominal LFW Team estimate based on experience of British forces [42]** plus 162 captured by US forces *** |
| Estimated casualties | Estimated casualties | Reported German KIAs and WIAs | Estimated casualties | Estimated casualties | W Team estimate bas [42]** plus 162 cap |
| Estimated | Estimated | Reported (| Estimated | Estimated | LFW Team ([42]** [|

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British NBC casualty rate for October 1943 was 2.5077419; this figure multiplied by the nominal German strength of 8.333 thousands provides a daily rate of 20.897013; multiplying this by 2 battle days provides 42 NBC [Mellor, Casualties and Medical Statistics, p. 238]; ***Fifth Army periodic reports.



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| ٥ | ies | Art., 9/10 A/C | | |
| Battle | Casualties | rmor %/n/ | 7 | ! |
| | Ca | rmor | 2 | ٠ |
| | | 1 0/% | 0.7 | |
| | | Pers %/D | 267 | 76 |
| A 4 v | Cortion | 2011100 | 33 | 10 |
| | Arty | Pcs | 113 | 59 |
| | | MBT | 68 | 22 |
| gth | Armor | Lt. | 17 | 0 |
| Strength | | T | 901 | 22 |
| | Pers | A/D (Total) | 18,476 | 7,250 |
| | | A/D | A | D |

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| Rattle | Casualties | 1/% | | 1 |
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| | | q/ | 0.1 | 9.0 |
| | | Pers | 30 | 98 |
| Г | ies | | | |
| Δir | Sorties | | ? | ٠٠ |
| | Arty | Pcs | 113 | 84 |
| | | MBT | 50 | 39 |
| gth | Armor | <u>Lt</u> . | 9 | 115 |
| Strength | | | 99 | 54 |
| S | Pers | (Total) | 18,196 | 8,333 |
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| Surprise | Ϋ́ | | |
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| Terrain | FM | | |
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| Level | | Considerable | | |
| Surpriser | 10011 | × | | |
| Surprise | | Y | | |
| Season | | FT | | |
| Weather | | DST | | |
| Terrain | | F | | |
| Def Posture Terrain Weather | | | PD | |
| A/D | | A | Q | |
| | | | | |

firing a shot, considerable surprise is involved. Most of the 161 captured When five battalions arrive inside the enemy position without the enemy were asleep.



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So easy was the victory that the LFW Team considers the mission accomplishment figure should be even higher for the attackers.



DRAGONI U.S. STRENGTH:

LOW

| | 16,628* |
|---|--|
| Estimated organizational strength US 34th Inf Div (+) and | 504th Parachute Inf Regt (+) minus 5 percent |

High

| | 17,503* |
|---|------------------------------|
| Estimated organizational strength US 34th Inf Div (+) and | 504th Parachute Inf Regt (+) |

Nominal

| Attachments/detachments |
|-------------------------|
| |

Div (+) strength of 17.066 thousands times 3 battle days equals detachment strength for an incoming division. **The daily 1943 returned to duty, was .4827403 per thousand. This times 34th The low figure reflects an estimated rear probably at or near TO&E strength; attachments from II Corps RTD rate, determined by 35 percent of 55 percent eventually BASIC SOURCES: *New to combat in Italy, the 34th Div was 25. [Lada, Medical Statistics World War II, and Mellor, Casualties and Medical Statistics.] Operations Orders.



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U.S. CASUALTIES: DRAGONI

| *5 | 417 | 379** | 142** 124*** 266 | 1,679 | 149** 1,377** 1,526 | |
|-----------------------------------|------------------------------|-----------------------------|--------------------------------|----------------------|---------------------------|--|
| "Bloody" Low Estimated casualties | High Estimated casualties | Nominal Reported casualties | "Non-Bloody" Low NBCs Total | Estimated casualties | Nominal MIAS NBCS Total | BASIC SOURCES: *Daily wounded non-effective rate was .3104109 per thousand. Multiplying this figure by 17.066 thousands provides 5. [Lada, Medical Statistics World War II, p. 8]; **VI Corps and Fifth Army Periodic Reports, [high NBC rate attributed to malaria]; ***The Mediterranean Theater |



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Multiplying strength of 17,066 thousands by 828 and dividing the result by 365, provides a 41.271501 per division battle day rate. This is not applicable to any U.S. division, only this one for this battle. Multiplying this by 3 days provides 124 NBC. experienced 828 NBC per thousand troops per year. [Lada, Medical Statistics World War II, p. 27].

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CONCIPIS ANALYSIS AGING

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GERMAN STRENGTH: DRAGONI

Low

| 9,005 | |
|--------------------|------|
| Estimated strength | High |
| strength | |
| Estimated | |

Nominal

Estimated strength ...

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



GERMAN CASUALTIES: DRAGONI

| Том 46 | High 56 | Nominal 51* | "Non-Bloody" Low 50 | High n forces 70** | Nominal 32* 23* Total 55 |
|----------------------|----------------------|-------------------|-----------------------|---|--|
| Estimated casualties | Estimated casualties | LFW Team estimate | "No | High Estimate from experience of British forces | German reported MIAsGerman reported NBCs |

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British daily NBC casualty rate per thousand in October 1943 was 2.3477419; this figure multiplied by nominal German strength of 10.005 thousands provides a force daily rate of 23; multiplying this by 3 battle days provides 70 NBC. [Mellor, Casualties and Medical Statistics, p. 238].



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| Battle | Casualties | ر ار | | | i |
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| | | Pers %/D | 65 0 1 | 100 | = |
| - | | | ╀ | | _ |
| Air | 777 | Salling | 54 | 116 | , |
| \vdash | Arty | Pcs | 5 | 51 | - f |
| | | MBT | 68 | 55 | |
| th | rmor | Lt. | 17 | 0 | |
| Strength | 1 | T | 901 | 55 | |
| S | Pers | A/D (Total) | 17,034 | 5,152 | , |
| | | A/D | A | 0 | |

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| | | | 2/D | | | |
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| | parrie | Casualties | %/D | t | 1 | 7 |
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| | | | 4/D | | 379 0.7 | 51 0.2 |
| | | | Pers %/D | | 379 | 21 |
| r | | es | } | l | | |
| | Alr | Arty Sorties | · · · | ۱ | ٠. | ٠. |
| | | Arty | Pcs | - 0 - | 101 | 51 |
| | | | MBT | - | 20 | 55 |
| gth | | Armor | Lt. | , | 0 | 0 |
| Strength | | | Τ | ١ | 26 | 55 |
| 5 | ١ | Pers | A/D (Total) | 770 1 | 1/,000 | D 10.005 |
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Since the U.S. forces are credited with victory and success, the LFW Team considers that their mission accomplishment rating should be higher.



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| | | Resolution | Д | , £ |
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| | | Success | | × |
| Plan and Maneuver | | Secondary Attack | ı | 1 |
| Plan an | Main Attack and | A/D Scheme of Defense | Ŀ | Q |
| | | A/D | V | Ω |

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Plan and Maneuver

| | Main Attack and | | | |
|-----|-------------------|--|---------|------------|
| A/A | Scheme of Defense | secondary Attack | Success | Resolution |
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Germans to withdraw; the LFW Team considers that success clearly belongs U.S. forces advanced 1.9 kilometers, took the objective, and forced the to the victors.



CONCEPTS ANALTSIS AGENCY

CANAL I BRITISH STRENGTH:

LOW

7th Armd Div low strength at preceding battle of Grazzanise [10,870] minus high Grazzanise casualties [296]

12,548 7th Armd Div high strength at preceding battle of Grazzanise [12,650] minus low Grazzanise casualties [102]

Nominal

11* 11,842 11,831 Replacements received during battle RTD Attachments/detachments during battle nominal Grazzanise "bloody" and "non-bloody" casualties Nominal Grazzanise end of battle strength [12,072] minus Total [253] plus RTD [12]

this provides il casualties RTD during the battle. [Mellor, Casualties by the two percentage figures provides an approximate daily RTD rate RTD after 22 days, the daily casualty rate per thousand, multiplied per thousand troops of .462385 for October 1943. Multiplied by the and Medical Statistics, and Lada, Medical Statistics World War II]. BASIC SOURCES: Fifth Army Periodic Reports and Operations Orders; *On the basis that 35 percent of the 55 percent of all casualties nominal battle strength in thousands of 11.842 and 2 battle days,



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BRITISH CASUALTIES: CANAL I

3* 55** *19 20 74 52 64 rate for October 1943 of 2.302258 per thousand multiplied by a nominal strength of 11.842 thousands times 2 battle days BASIC SOURCES: *Fifth Army Periodic Reports; **A daily NBC Estimate based on Casualties and Medical Statistics Reported casualties Estimate Estimate..... Reported MIAs..... "Non-Bloody" "Bloody" Nominal High Nominal High Low Estimated casualties



provides 55 NBC. [Mellor, Casualties and Medical Statistics,

p. 238].

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GERMAN STRENGTH: CANAL I

LOW

| 13,172 | | 16,100 | | 14,636 | 0 | | talian Assault Gun |
|----------|------|----------|---|---------|-------------------------|----------------------------------|--|
| Estimate | High | Estimate | • | Nominal | Nominal German strength | Nominal Recorded German strength | Nominal Recorded German strength |

Tenth Army and XIV Panzer Corps War Diaries

BASIC SOURCES: and appendices.



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GERMAN CASUALTIES: CANAL I

32* **\$6**9 53 65 29 79 BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **An October 1943 daily rate per thousand of 2.5077419 NBC multiplied by normal battle strength of 14.636 Estimated NBC [73] from experience of British forces, plus thousands, times 2 battle days provides 67 NBC** [Mellor, Estimate Reported MIA [6] and NBC [26] Reported KIA and WIA nominal MIA [6] "Non-Bloody" "Bloody" Nominal Nominal High LOW Estimated casualties Estimated casualties



Casualties and Medical Statistics, p. 238].

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| | Cort | 100 | \ \ \ \ | | |
| | r † v | Pcs | 102 | 108 | 222 |
| | | BT | 50 | 76 | 1 |
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| trength | Arn | 17 | 0 | 5 21 | |
| Stre | | Ē | 150 | 7 | |
| | S | 크 | 1,813 | 989 | |
| | Pers | (Total) | 11,8 | 14,6 | |
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The LFW Team considers that the victors deserve a higher mission accomplishment rating than the defeated defenders.



MONTE GRANDE

HERO

| Days Front (Km) | 0.6 | |
|-----------------|--|-----------------------------------|
| Days | 2 | |
| Commanders | MG Templer | MG Schmalz |
| Forces | A 16-17 Oct 43 Volturno Br 56th Inf Div elm MG Templer | Gr Herman Goering Pz Div (1/2) |
| Campaign | Volturno | |
| Dates | 16-17 Oct 43 | |
| A/D | A | Q |

LFW

| | | | | | | Width of | |
|-----|--------------|----------|---|------------|------|-----------------|---------------|
| A D | Dates | Campaign | Forces | Commanders | Days | Days Front (Km) | $\overline{}$ |
| A | 16-17 Oct 43 | Volturno | A 16-17 Oct 43 Volturno Br 56th Inf Div | MG Templer | 2 | 0.6 | |
| Ω | | | Gr Herman Goering Pz Div (1/2) | MG Conrad | | | |

The entire 56th Infantry Division(+) was involved.



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BRITISH STRENGTH: MONTE GRANDE

Low

19,607 high est. casualties [2,147] plus low RTD [339]..... 56th Div Salerno start of campaign strength [21,425] minus

High

20,075 56th Div Salerno start of campaign strength [21,425] minus low est. casualties [1,765] plus high RTD [415]

Nominal

19,860

Total

September casualties, based on September 9 strength thus was 1,200. Thus, the October strength was approximately 20.225 thousands, and the October daily casualty rate was 2.5077418, and October total September 21 and October 15, 1943 days prior to the battle and a 21.425 thousands September 9 start of battle strength, the BASIC SOURCES: Fifth Army Periodic Reports; On the basis of September daily total casualty rate per thousand was 2.663

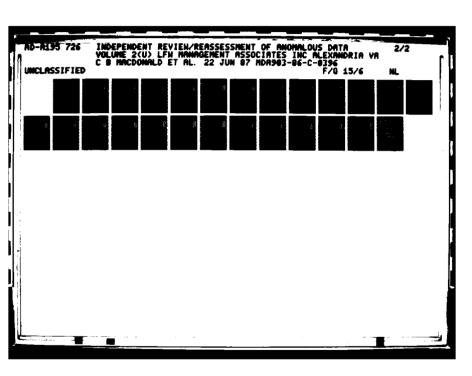


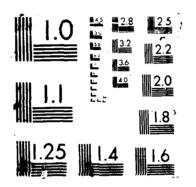
battle casualties were approximately 761. [Mellor, Casualties and Battle Statistics, p. 238]. The Daily RTD rate in September was .51359 per thousand troops and october was .4827403 per thousand. This approximate rate is based on 35 percent of the 55 percent of casualties eventually RTD. These RTDs average 22 non-duty days. Statistics World War II]. Low and high casualties respectively [Mellor, Casualties and Battle Statistics, and Lada, Medical are 10 percent lower or higher than nominal 1,961.



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BRITISH CASUALTIES: MONTE GRANDE

"Bloody"

| *8 | 102 | 93** | 242 82 324 | 296 100 396 | 269 9 <u>1*</u> ** 360 |
|--------------------------|---------------------------|-----------------------------|----------------------------------|-------------------|------------------------------|
| Low Estimated casualties | High Estimated casualties | Nominal Reported casualties | "Non-Bloody" Low Estimated MIAs | Estimated MIAs | Nominal Reported MIAS |

BASIC SOURCES: *British October 1943 "bloody" casualties were 6.37 per thousand troops. The start strength of 19.841 thousands multiplied by 6.37, divided by 31 days provides a daily "bloody"



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casualty rate of 4.0770054; thus the "bloody" casualty rate for the 2-day battle was 8. [Mellor, Casualties and Medical Statistics, p. 238]. **Fifth Army Periodic Reports; ***British October 1943 "non-bloody" casualty rate was 2.302258 per thousand; multiplied by nominal strength of 19.841 thousands, this provides 91 NBC for the 2-day battle. [Mellor, Casualties and Medical Statistics, p. 238].



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GERMAN STRENGTH: MONTE GRANDE

LOW

| 7,412 | | 6,059 | | 8,235 0 0 | 8,235 | |
|--------------------|------|--------------------|---------|-------------------------------------|-------|--|
| Estimated strength | High | Estimated strength | Nominal | Replacements received during battle | Total | BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices. |



GERMAN CASUALTIES: MONTE GRANDE

| | "Bloody" | |
|----------------------------|---|--------------------|
| Estimated c | Estimated casualties | 54 |
| Estimated casualties | High asualties | 99 |
| Reported by | Nominal Reported by German forces | *09 |
| Estimated . | "Non-Bloody" Low | 40 |
| Estimate | High Estimate | 87 |
| Estimated N Estimated M | Nominal Estimated NBCs from experience of British forces Estimated MIAs | 38** 6*** 44 |

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British October 1943 daily "non-bloody" loss per thousand was 2.302258. Multiplied by strength of 8.235 thousands and 2 days, this provides 38 NBC [Mellor, Casualties and Medical Statistics, P. 238]; ***One day of German records for the battle is missing; the other day shows 3 MIA; the LFW Team thus doubled the figure to 6.



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MONTE GRANDE

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| | | Armor 2/D Arty 9/D A/C 9 | 2/4 2/2 | |
| le | Casualties | Arty 9 | , , | |
| Battle | sua1 | 7 /n | 2 | - |
| | Ca | Armor | , | ٠, |
| | | <u>2/%</u> | 9.0 | 2 0 99 |
| | | Pers %/D | 200 0.6 | 99 |
| 7 + 4 | Arty Cortico | S211100 | 87 | 0 |
| | Arty | Pcs | 1112 | 67 |
| | | Lt. MBT | 72 | 22 |
| gth | Armor | Lt. | 1 | 0 |
| Strength | | Ţ | 73 | 22 |
| S | Pers | A/D (Total) | 16,400 | 7,239 |
| | | A/D | Α | Ω |

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| Pers (Tota) 19,84] 8,23 | Strength Air Rattle | Armor Arty Sorties Ca | T Lt. MBT | 43 0 43 113 ? 93 0.2 2 2.3 0 ? | 2 0 09 6 70 87 6 67 67 6 |
|----------------------------------|---------------------|-----------------------|-------------|--------------------------------|--------------------------|
| | Stren | Pers | D (Total) T | 19,841 43 | 8.235 49 |



BRITISH STRENGTH: FRANCOLISE

LOW

| | , | 11,335 |
|---|---|------------|
| 7th Br Armd Div Canal I preceding battle low strength | [11,577] minus high est. casualties ["bloody" 74, "non- | bloody b8] |

7th Br Armd Div Canal I preceding battle [12,643] minus low est. "bloody" [50] and "non-bloody" [56] casualties....

Nominal

| | 11,695 | 0 17* | 0 | 11,712 |
|---|----------------------|-------------------------------------|---------------------------------------|--------|
| 7th Br Armd Div Canal 1 preceding battle nominal strength [11,813] plus RTD [11] minus nominal casualties ["bloody" | 67, "non-bloody" 68] | Replacements received during battle | Attachments/detachments during battle | Total |

BASIC SOURCES: Fifth Army Periodic Reports; *Daily October 1943 RTD rate per thousand [35 percent RTD in 22 days of 55 percent eventually returned to duty] was .4827403. This figure multiplied by nominal strength [11.695 thousands] and three days provides 17 RTD. [Lada, Medical Statistics World War II, and Mellor, Casualties and Medical Statistics.]



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BRITISH CASUALTIES: FRANCOLISE

| | 76 | 92 | *78 | 100 | 122 | 30* 81** |
|-----------------|----------------------|---------------------------|--------------------------------|-------------------|------------------|---------------|
| "Bloody" Low | Estimated casualties | High Estimated casualties | Nominal Reported KIAs and WIAs | "Non-Bloody" Low | High Estimate | Reported MIAs |



BASIC SOURCES: *Fifth Army Periodic Reports; **October 1943 daily NBC rate per thousand was 2.302258. This figure multiplied by strength of 11.695 thousands and 3 battle days

provides 81 NBCs [Mellor, Casualties and Medical Statistics,

p. 238].

US ARMY GERMAN STRENGTH: FRANCOLISE

Low

| 6,513 | 8008 |
|--|---|
| Estimate 1/2 Canal I preceding battle low strength [6,586] minus 1/2 Canal I high casualties ["bloody" 33, "non- bloody" 40] | Estimate 1/2 Canal I preceding battle high strength [8,050] minus 1/2 Canal I low casualties ["bloody" 27, "non-bloody" 15] |

Nominal

8,008

| 7,27 | 7,27 |
|---|-------|
| Estimate 1/2 Canal I preceding battle nominal strength [7,318] minus 1/2 Canal I nominal casualties ["bloody 30, "non-bloody" 16] | Total |

2000

Tenth Army and XIV Panzer Corps War Diaries forces participating in the preceding Canal I battle partiand appendices. Only approximately one-half of the German cipated in the Francolise battle. BASIC SOURCES:



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GERMAN CASUALTIES: FRANCOLISE

| "Bloody" | |
|--|------------------|
| Estimated casualties | 40 |
| High Estimated casualties | 48 |
| Nominal Reported KIAs and WIAs | *77 |
| "Non-Bloody" Low Estimate | 48 |
| High Estimate | 62 |
| Nominal NBCs from experience of British forces | 50** 6* 56 |
| BASIC SOURCES: *Tenth Army and XIV Corps War Diaries and | |



appendices; **October 1943 daily British NBC rate was 2.302258; this figure multiplied by nominal strength of 7.272 thousands

and 3 battle days provides 50 NBC [Mellor, Casualties and

Medical Statistics, p. 238].

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FRANCOLISE

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| | | 711.5 | Pcs | | 89 | | 3 | |
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| trength | | | — ;- | ١ | 158 | 20 | Ä | |
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| Strength | Dare | Armor Arty | A/D (Total) T Lt. MBT Pcs | 1 5 | - | 7.272 23 11 19 49 | |
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MONTE ROTONDO

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| Width of Days Front (Km) | 4.5 | | |
|-----------------------------|--|------------------------------|---|
| Days | 3 | | ļ |
| Commanders | MG Truscott | MG Baade | |
| Forces | A R-10 Nov 43 Volturno US 3d Inf Div (-) MG Truscott | Gr 3d Pz Gr Div (½) MG Baade | |
| Campaign | Volturno | | |
| Dates | 8-10 Nov 43 | | |
| A/D | А | Ω | |

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| | | | | | | Width of | ىيە |
|-----|-------------|----------|------------------------------------|-------------|------|----------------|---------|
| A/D | Dates | Campaign | Forces | Commanders | Days | Days Front (Km | ₹ (= |
| A | 8-10 Nov 43 | Volturno | 8-10 Nov 43 Volturno US 3d Inf Div | MG Truscott | 3 | 4.5 | _ |
| Q | | | Cr 3d Pz Gr Div (½) MG Baade | MG Baade | | | |
| | | | | | | | |

The entire 3d U.S. Infantry Division was involved.



U.S. STRENGTH: MONTE ROTONDO

LOW

17,235 minus high casualties ["bloody" 32, "non-bloody" 285] 3d Div low Triflisco preceding battle strength [17,552]

High

18,322 [18,476] minus low casualties ["bloody" 27, "non-bloody" 3d US Inf Div high Triflisco preceding battle strength

Nominal

| 18,048 | Total |
|--------|--|
| 0 | Attachments/detachments during battle |
| 26 | RTD |
| 0 | Replacements received during battle |
| 18,032 | minus nominal casualties ["bloody" 30, "non-bloody" 259] |
| | 3d Div nominal Trifilisco preceding battle strength [18,321] |
| | |

the 22-day 35 percent of the eventually 55 percent RTD, was .4827403 per thousand. Multiplying this figure by the nominal battle strength of 18,052 thousands and 3 days of battle produces 26 RTD. (Lada, Medical Statistics World War II, and Mellor, Casualties and Battle Statistics.)



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U.S. CASUALTIES: MONTE ROTONDO

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| "Bloody" Low | |
|---|-----------------------------------|
| Estimate | 728 |
| High Estimate | 890 |
| Nominal Reported KIAs and WIAs | *608 |
| "Non-Bloody" Low | 66 |
| Total High | 177 80 135 |
| Nominal Reported MIAs | 215 73 <u>123</u> ** 196 |
| BASIC SOURCES: *3d Infantry Division Situation Reports; ** The Mediterranean Theater experienced 828 NBC per thousand troops per year. Multiplying this figure by the strength of | |

CONCEPTS ANALYSIS AGINGY

18.052 thousands and dividing the result by 365 provides a daily rate, and multiplying the result by 3 battle days results

in 123 NBCs. [Lada, Medical Statistics World War II, p. 27].

GERMAN STRENGTH: MONTE ROTONDO

Low

| Estimate | 16,318 | |
|---------------------------------------|--------|--|
| High | | |
| Estimate | 19,944 | |
| Nominal | | |
| Recorded German start strength | 18,131 | |
| Attachments/detachments during battle | 0 | |
| Total | 18,131 | |

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diarles and appendices. German start strength includes 5,000 attached troops from 26th Panzer Division.



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GERMAN CASUALTIES: MONTE ROTONDO

| Estimated casualties | 129 157 143 163 |
|--|--------------------------|
| High Estimate | 199 |
| Nominal Reported MIAs [124] and NBCs [57] | 181 |
| BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diarles and appendices. | |



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MONTE ROTONDO

HERO

| D-4-1 | | 16/16 | rers %/D Armor %/D Arty %/D A/C 9/D | | / 0 | 1118 10.5 1 2 1 1 2 1-1 2 |
|----------|------|--------------|-------------------------------------|---------------------------|------------------|---------------------------|
| : | Alr | Sorties | | 132 | 1 0 | 28 |
| Strength | Arre | T Lt MRT Des | | 100 106 17 89 106 | 2 52k 0x 1,2x 53 | 77 |
| | Pers | A/D (Total) | A 250 | cc tot | D 7.942 | |

LFW

| | D - 1 - 1 | | Schaltles | Dove 9/10 Armor 9/10 A. L. 10/10 12 12 | 10/0/ 10/11/11/19/19 | 809 1 5 1 0 6 0 | / 0 0:0 T C:+ | | / / / / / |
|---------|---|---------|------------|--|----------------------|-----------------|---------------|----------|-----------|
| | V + V | , TTU 0 | cy sorties | cs | | | · · | , [0] | |
| trenoth | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | Armor | | 1 LE, MBI P | 7 7 7 | or a local | | | |
| S. | | Pers | (Total) | מית וייטרמיו | νιο αι γ | +TO*01 | 18 C22 | | |

*Original HERO report apparently should read 10 light tanks.



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MONTE ROTONDO

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HERO

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| Adv | 0.3 |
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| n t- | × |
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| Log | 0 |
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| Trng Exp. | × |
| Leader- ship | ၁ |
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|-----------------------------|-----|
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| ^ P V | 0.3 |
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| Log | ပ |
| - Trng Morale Log A Exp. | ပ |
| Exp. | × |
| Leader- ship | ပ |
| 핑 | × |
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The LFW Team changed the mission accomplished rating to accommodate the victors.



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MONTE ROTONDO

HERO

| | | Success Resolution | · | · × |
|-------------------|-----------------|--------------------|----------|-----|
| Maneuver | | Secondary Attack | LL. | 1 |
| Pian and Maneuver | Main Attack and | Scheme of Defense | F,E (LF) | DO |
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LFV

| Main Attack and Maneu | Maneuver | | |
|-----------------------|------------------|---------|--------------------|
| A/D Scheme of Defense | Secondary Attack | Success | Success Resolution |
| 0 0 | | × | GA d |
| | | | |

Since U.S. forces were the victor, the LFW Team has deleted success from the defender. 3

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HERO

| Uays (Km) | Uays | Commanders | LOLCES | 1001100 | 22.12.0 | |
|-------------------|------|----------------------|---|----------|------------|----------|
| Width of Front | 3 | | | | , , | 6 |
| | | | LFW | | | |
| 1.0 | 2 | MG Walker MG Rodt | 2-3 Dec 43 Volturno US 36th Inf DIV (-) MG Walker Gr 16 Pz Gr DIV(1/4) MG Rodt | Volturno | 2-3 Dec 43 | |
| (Ka) | Days | Commanders | Forces | Campaign | Dates | 9/0 |
| Front | • | | | | | ļ |

The U.S. forces were not the 36th Inf Div (-) but the 142d RCT of that division.

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MG Walker MG Rodt

US 142d RCT Gr 16 Pz Gr DIv(1/4)

Volturno

2-3 Dec 43

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II-111

U.S. STRENGTH: MONTE MAGGIORE

Low

| 5,431 | | 5,551 | |
|--|------|-------------------|---------|
| 142d RCT minus 120-man rear detachment | High | 142d RCT strength | Nominal |
| m | | st | |
| RCI | | RCI | |
| 142d | | 142d | |

5,491

5,491

Total

BASIC SOURCES: TO&E strength; 36th Division after-action

RTD

Attachments/detachments during battle

report and operations orders.



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U.S. CASUALTIES: MONTE MAGGIORE

| 173 | 211 | 192 | 52 23 75 | 64 92 92 | 58* 25** 83 |
|-----------------------------------|---------------------------|--------------------------------|-------------------------|----------------|-------------------|
| "Bloody" Low Estimated casualties | High Estimated casualties | Nominal Reported KIAs and WIAs | "Non-Bloody" Low MIAS | Estimated MIAs | Reported MIAs |

CONCEPTS ANALYSIS AGING

This figure multiplied by 5.491 thousands, divided by 365 days, provides a daily force NBC rate of 12.456295. Multiplying that

figure by 2 battle days provides 25 NBC. [Lada, Medical

Statistics World War II]

BASIC SOURCES: *Fifth Army Perlodic Reports; **The Mediter-

ranean Theater had a yearly NBC rate per thousand of 828.

GERMAN STRENGTH: MONTE MAGGIORE

Low

| Estimate | 11,705 |
|---------------------------------------|--------|
| High | |
| Estimate | 14,306 |
| Nominal | |
| Recorded German strength | 13,005 |
| Attachments/detachments during battle | 0 0 |
| Total | 13,005 |

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



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GERMAN CASUALTIES: MONTE MAGGIORE

| | 32 | 39 | 35* | 18 | 43** | 20* |
|-----------------|----------|------------------|---|-----------------------------|---|---|
| "Bloody" Low | Estimate | High Estimate | Nominal Reported KIAs [7] and WIAs [28] | "Non-Bloody" Low Estimate | High Estimate from experience of British forces | Nominal LFW Team estimate based on NBCs in German reports |

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries

and appendices; **British December 1943 daily NBC rate per

thousand was 1.6567741; this figure multiplied by the battle

[Mellor, Casualties and Battle Statistics, p. 238].

strength [13.005 thousands] and the 2-day battle, provides 43 NBC. [Mellor, Casualties and Battle Statistics in 2201

11-115

MONTE MAGGIORE

HFRO

| Battle | Casualties | Armor 9/10 Art. 9/10 A 10 9/10 | 0 0 0 | · c |
|----------|------------|--------------------------------|--------|--------|
| | | Pers %/D | 80 0.7 | 20 0.3 |
| Δ 1 ν | | 201 116 | 221 | 0 |
| | Arty | Pcs | 152 | 34 |
| | | MBT | c | 112 |
| gth | Armor | Lt. | 0 | 0 |
| Strength | | T | 0 | 12 |
| | Pers | A/D (Total) | 5,551 | 3,288 |
| | | A/D | A | ۵ |

LFW

| | S | ty %/D A/C %/D | 2 | |
|----------|------------|----------------|-------|--------|
| Rattle | Casualties | r %/D Arty |) | |
| | Ca | 일 | U | 2 |
| | | Pers %/D Arm | 1.7 | 0 |
| L | | Pers | 192 | 35 |
| Δ4. | Sorties | | ٠. | 2 |
| | Arty | Pcs | 152 | 74 |
| | | MBT | 0 | 25 |
| ıgth | Armor | Lt. | c | 143 |
| Strength | | | 0 | 168 |
| | Pers | A/D (Total) | 5,491 | 13,005 |
| | | 3 | ⋖ | |



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